

## **2016 Missouri Wild Turkey Brood Survey Results**

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The Missouri Department of Conservation (MDC) has conducted a wild turkey brood survey annually since 1959. During the survey, MDC staff and citizen volunteers record turkey observations during June, July, and August to determine the success of the hatch. Data are collected at the county level and reported statewide and by Turkey Productivity Region which are counties grouped by similar land cover composition (Figure 1). Each year, thousands of citizens participate in the survey and we are grateful for their contribution. If you'd like to participate in the survey, send an e-mail to [Rachel.Boss@mdc.mo.gov](mailto:Rachel.Boss@mdc.mo.gov). Write "Wild Turkey Brood Survey" in the subject line and include your name and mailing address, and you'll be added to the survey mailing list.

In 2016, over 59,000 turkeys were observed during the brood survey. This year's statewide poult-to-hen ratio (PHR) was 0.8, which is 47% less than the 2015 ratio (1.5) and 50% less than the previous five-year average of 1.6 (Figure 1, Table 1). This year's PHR was 43% less than the 10-year average and 53% less than the 20-year average (Table 1). Poult-to-hen ratios ranged from 0.8 in the Northeast, Union Breaks, and West Prairie to 1.3 in the Mississippi Lowlands (Figure 1, Table 1). Compared to the five-year average, PHRs were lower in all regions, ranging from 13% below the average in the Mississippi Lowlands to 55% below the average in the Ozarks East (Figure 1, Table 1).

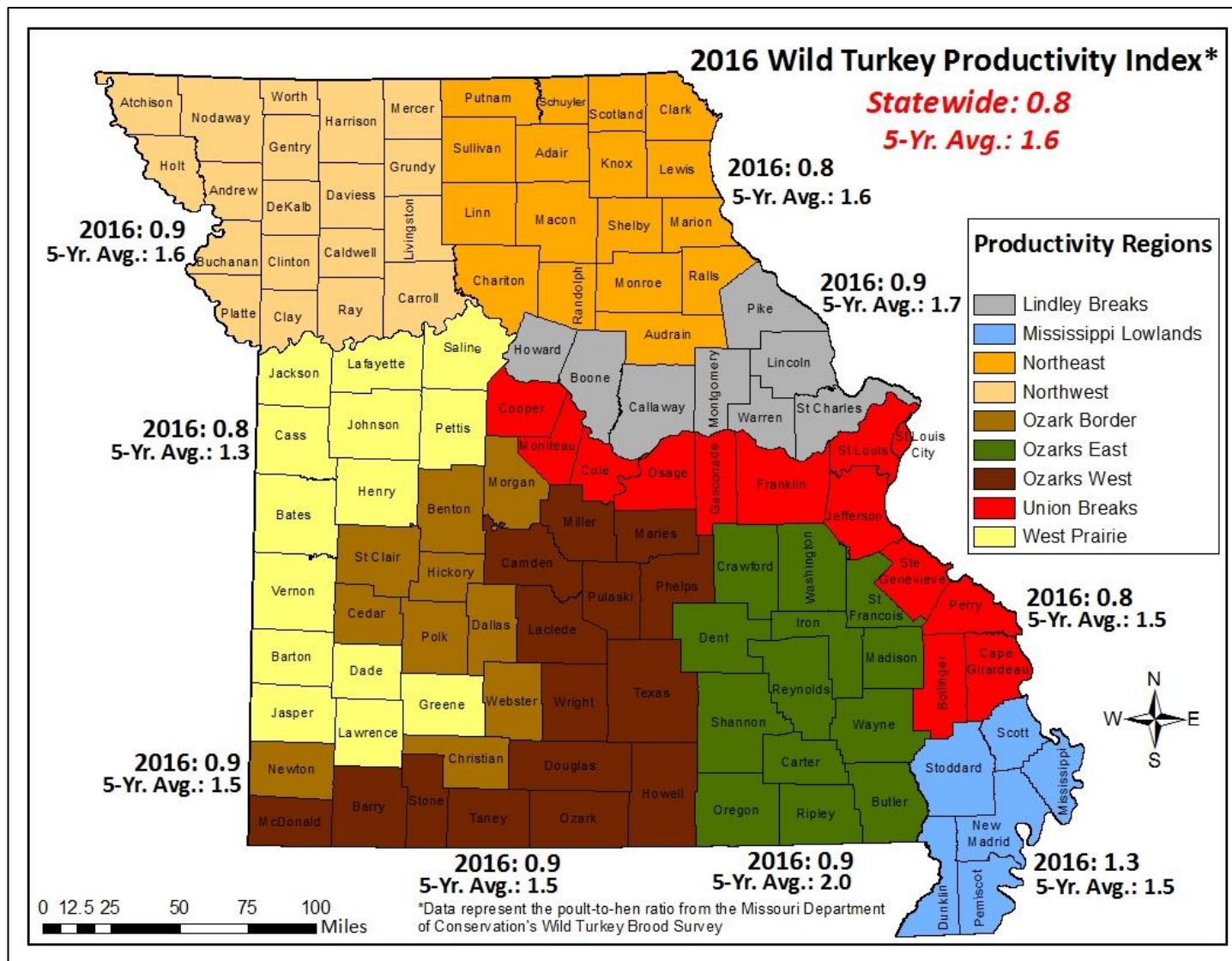
Twenty-nine percent of hens were observed with a brood, which is down from 43% in 2015, and is 34% less than the five-year average of 44%. Regionally, the percentage of hens

observed with a brood ranged from 25% in the Northeast and Northwest to 35% in the Mississippi Lowlands (Table 2). For hens that were observed with a brood, the statewide average number of poults per brood was 3.5, which is down from 3.9 in 2015 and 19% less than the five-year average of 4.3. The average number of poults per brood ranged from 3.3 in the Union Breaks to 4.2 in the Mississippi Lowlands (Table 2).

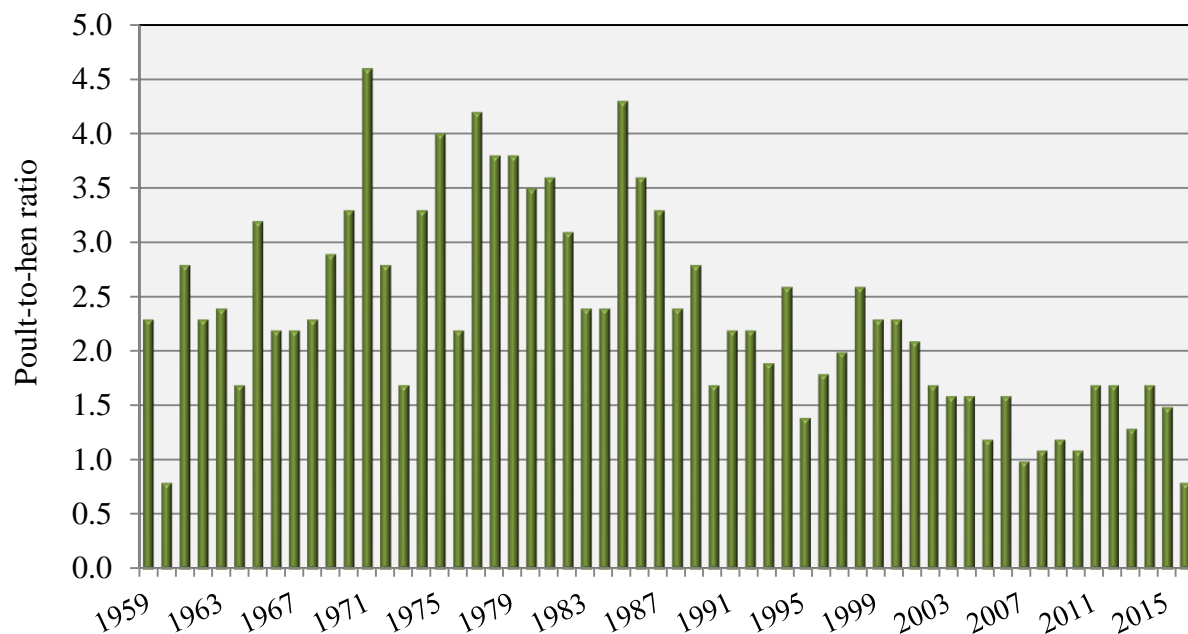
Poor production throughout the state will likely make fall turkey hunting in Missouri challenging this season. Juvenile turkeys are typically the most vulnerable and the easiest to lure in with turkey calls. Therefore, having fewer young birds on the landscape this year will likely result in hunters having to put forth more effort to be successful. This will be especially true in areas that experience good acorn production. Where acorns are abundant, turkeys spend more time in forested areas and do not have to range far to locate food, both of which typically result in reduced turkey harvest.

In addition to considering this year's hatch, hunters should also be mindful of trends in regional turkey numbers. During the last five years, turkey numbers have been increasing in portions of north-central Missouri, as well as in the Ozark Border, Ozarks East, and Ozarks West regions. Turkey numbers have been stable in the Lindley Breaks, Mississippi Lowlands, Northwest, Union Breaks, and West Prairie regions. Turkey numbers in most areas of the state remain below the population peak that occurred in the late 1990s and early 2000s when the statewide PHR was  $\geq 2.0$  for five consecutive years (Figure 2). Turkey numbers throughout much of southern Missouri remain 10–25% below the population peak, although the turkey population in the Ozark Border region is currently near record levels. Turkey numbers range 15–30% below peak numbers in the Lindley and Union Breaks regions and 35–50% below peak numbers in the Northwest and Northeast regions.

Although this year's prospects are not as positive as in years past, October is still a great month to enjoy the outdoors, and fall hunting provides an opportunity to pursue turkeys in the setting of Missouri's beautiful fall woods. Unlike the spring season, when over 100,000 turkey hunting permits are purchased in Missouri, typically less than 15,000 hunters purchase fall firearms turkey permits. Because relatively few people fall turkey hunt in Missouri compared to the spring season, fall turkey hunters often find that they have the woods all to themselves.



**Figure 1.** Index (poult-to-hen ratio) of Missouri wild turkey production by Turkey Productivity Region. Data were obtained during the Conservation Department's 2016 Wild Turkey Brood Survey and are compared to the previous five-year averages.



**Figure 2.** Statewide wild turkey productivity index (poult-to-hen ratio) in Missouri based on observations during the Conservation Department’s Wild Turkey Brood Survey, 1959–2016.

**Table 1.** Index (poult-to-hen ratio) of Missouri wild turkey production by Turkey Productivity Region (Figure 1). Data were obtained during the Conservation Department’s Wild Turkey Brood Survey in 2016 and are compared to the previous year and the average for periodic intervals.

Productivity Region	2016 Index	1-year (2015) Change	5-year (2011–2015) Change	10-year (2006–2015) Change	20-year (1996–2015) Change
Lindley Breaks	0.9	-40%	-47%	-40%	-50%
Mississippi Lowlands	1.3	-19%	-13%	-24%	-38%
Northeast	0.8	-33%	-50%	-43%	-50%
Northwest	0.9	-50%	-44%	-36%	-50%
Ozark Border	0.9	-25%	-40%	-25%	-44%
Ozarks East	0.9	-53%	-55%	-50%	-53%
Ozarks West	0.9	-44%	-40%	-36%	-44%
Union Breaks	0.8	-47%	-47%	-43%	-50%
West Prairie	0.8	-27%	-38%	-27%	-47%
<b>Statewide</b>	<b>0.8</b>	<b>-47%</b>	<b>-50%</b>	<b>-43%</b>	<b>-53%</b>

**Table 2.** Data obtained during the Missouri Department of Conservation's Wild Turkey Brood Survey, listed by Turkey Productivity Region (Figure 1), 2016.

<b>Productivity Region</b>	<b>% Hens w/ Brood</b>	<b>Average Brood Size</b>	<b>Poult-to-Hen Ratio</b>	<b>Gobbler-to-Hen Ratio</b>
Lindley Breaks	33%	3.5	0.9	0.64
Mississippi Lowlands	35%	4.2	1.3	0.79
Northeast	25%	4.0	0.8	0.70
Northwest	25%	4.1	0.9	0.87
Ozark Border	27%	4.0	0.9	0.99
Ozarks East	28%	3.7	0.9	0.54
Ozarks West	26%	4.0	0.9	0.86
Union Breaks	29%	3.3	0.8	0.59
West Prairie	28%	3.5	0.8	1.02
<b>Statewide</b>	<b>29%</b>	<b>3.5</b>	<b>0.8</b>	<b>0.75</b>